

Name _____

AP Chemistry

Lewis Structures

Localized Electron Bonding Model

The localized electron model assumes that a molecule is composed of atoms that are bound together by shared pairs of electrons using the atomic orbitals of the bound atoms.

- Lone pairs
- Bonding pairs

Lewis Structures

The Lewis structure shows how the valence electrons are arranged among atoms in a molecule. The most important requirement for the formation of a stable compound is that the atoms achieve noble gas electron configurations. Therefore, in Lewis structures, the octet rule is applied. This rule states that each element is surrounded by eight electrons. Hydrogen and helium are exceptions because they only can hold two electrons as they have just a 1s orbital. Steps for writing Lewis structure, using an example of NF_3 :

Example:

Write the Lewis structure for ClO_2^- .

Practice Questions:

